



# ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: GE90-90B BYPASS RATIO: 8.4  
 UNIQUE ID NUMBER: 9GE127 PRESSURE RATIO ( $\pi_{00}$ ): 39.9  
 COMBUSTOR: PEC  
 ENGINE TYPE: TF RATED THRUST ( $F_{00}$ ) (kN): 419.3

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO <sub>x</sub>	SMOKE NUMBER
D <sub>p</sub> /F <sub>00</sub> (g/kN) or SN	4.3	39.8	73.7	3.1
AS % OF ORIGINAL LIMIT	21.7	33.7	61.5	19.5
AS % OF CAEP/2 LIMIT (NO <sub>x</sub> )			76.9	
AS % OF CAEP/4 LIMIT (NO <sub>x</sub> )			84.9	
AS % OF CAEP/6 LIMIT (NO <sub>x</sub> )			93.6	
AS % OF CAEP/8 LIMIT (NO <sub>x</sub> )			105.5	

### DATA STATUS

- PRE-REGULATION  
 x CERTIFICATION  
 - REVISED (SEE REMARKS)

### TEST ENGINE STATUS

- NEWLY MANUFACTURED ENGINES  
 x DEDICATED ENGINES TO PRODUCTION STANDARD  
 - OTHER (SEE REMARKS)

### EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE  
 (ANNEX 16 VOLUME II)

### CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)  
 x OUT OF PRODUCTION (DATE: - )  
 - OUT OF SERVICE (DATE: - )

### MEASURED DATA

MODE	POWER SETTING (%F <sub>00</sub> )	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO <sub>x</sub>	
TAKE-OFF	100	0.7	3.380	0.04	0.30	49.21	2.4
CLIMB OUT	85	2.2	2.735	0.03	0.31	39.07	0.8
APPROACH	30	4.0	0.852	0.06	1.88	15.44	1.0
IDLE	7	26.0	0.280	2.59	29.89	5.48	1.0
LTO TOTAL FUEL (kg) or EMISSIONS (g)			1144	1159	13593	26639	-
NUMBER OF ENGINES				1	1	1	1
NUMBER OF TESTS				3	3	3	3
AVERAGE D <sub>p</sub> /F <sub>00</sub> (g/kN) or AVERAGE SN (MAX)				2.8	32.4	63.5	2.4
SIGMA (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)				0.3	1.1	0.6	0.8
RANGE (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)				2.59-3.06	31.6-33.63	62.99-64.13	1.56-3.24

### ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT All POWER SETTINGS  
 STAGE BLEED 0 (% CORE FLOW) AT All POWER SETTINGS

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	98.4-98.7
TEMPERATURE (K)	277.2-281.3
ABS HUMIDITY (kg/kg)	0.0015-0.0043

### FUEL

SPEC	Jet A-1
H/C	
AROM (%)	15-16

MANUFACTURER: General Electric Company  
 TEST ORGANIZATION: General Electric Peebles Test Operation  
 TEST LOCATION: Site 6A  
 TEST DATES: 30/11/2007-08/12/2007

### NO<sub>x</sub> REGULATION PARAGRAPH

	2.3.2 c) (CAEP/4)
x	2.3.2 d) (CAEP/6)
	2.3.2 e) (CAEP/8)

### REMARKS

- GE Aviation Report R2007AE851
- Engine serial number 900-505/1
- Turbomachinery incorporating 3D aero
- Performance Enhanced Combustor (PEC)
- Certification in accordance with Part III, Chapter 2, of Amendment 7 of ICAO Annex 16 Vol. II.
- NO<sub>x</sub> levels in accordance with Part III, Chapter 2, 2.3.2 d) (CAEP/6)

Compliance with Fuel Venting requirements: x ('x' if complies, 'PR' if pre-regulation, '-' if information is not available)